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STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER DARROW, JUSTIN T	
			ART UNIT	PAPER NUMBER
			2132	

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/032,492	Applicant(s) KIKUCHI ET AL.	
	Examiner Justin T. Darrow	Art Unit 2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4,9,10, 14-19, and 21 is/are rejected.
- 7) ☒ Claim(s) 5-8,11-13 and 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 08/805/090.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>01022002</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

1. Claims 1-21 have been presented for examination. Claim 10 has been amended and new claim 21 has been added in a preliminary amendment filed 01/02/2002. Claims 1-21 have been examined.

Priority

2. Acknowledgment is made that the instant application is a continuation of Application No. 08/805,090, filed 02/24/1997, now U.S. Patent No. 6,584,563 B1, which is a continuation of Application No. 08/301,397, filed 09/08/1994, now abandoned.
3. Receipt is acknowledged of a paper submitted under 35 U.S.C. 119(a)-(d), which paper has been placed of record in the file of Application No. 08/805,090.
4. Acknowledgment is made for the benefit of an earlier filing date of Application No. P05-303960 filed in Japan on 12/03/1997.

Claim Objections

5. Claim 4 is objected to because of the following informality: delete "periodical" in page 3, line 12 and replace with --periodic--. Appropriate correction is required.
6. Claim 6 is objected to because of the following informality: delete "periodical" in page 4, line 5 and replace with --periodic--. Appropriate correction is required.
7. Claim 11 is objected to because of the following informality: delete "user support system" in page 6, line 8 and replace with --terminal equipment--. Appropriate correction is required.

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8. Claim 12 is objected to because of the following informality: delete “user support system” in page 6, line 17 and replace with --terminal equipment--. Appropriate correction is required.

9. Claim 13 is objected to because of the following informality: delete “user support system” in page 6, line 27 and replace with --terminal equipment--. Appropriate correction is required.

10. Claim 14 is objected to because of the following informality: delete “user support system” in page 7, line 1 and replace with --terminal equipment--. Appropriate correction is required.

11. Claim 15 is objected to because of the following informality: delete “user support system” in page 7, line 10 and replace with --terminal equipment--. Appropriate correction is required.

Claim Rejections - 35 USC § 101

12. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

13. Claim 21 is rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. Claim 21 recites “deciphering the unencyphered portion.” Unencyphered data cannot be deciphered.

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Double Patenting

14. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

15. Claim 14 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 10 of prior U.S. Patent No. 6,584,563 B1. This is a double patenting rejection.

16. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

17. Claim 10 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 6,584,563 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 10 of U.S. Patent No. 6,584,563 B1 recites all of the limitations of claim 10 of the instant application.

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18. Claims 10 and 15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 11 of U.S. Patent No. 6,584,563 B1.

Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 11 of U.S. Patent No. 6,584,563 B1 recites all of the limitations of claims 10 and 15 of the instant application.

Claim Rejections - 35 USC § 102

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

20. Claims 1-4, 9, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Mandelbaum et al., U.S. Patent No. 5,544, 246 A.

As per claim 1, Mandelbaum et al. illustrate a user support system comprising:

key storage means [see specification, page 15, lines 5-8; figure 4, item 4; key storage] for storing keys used for deciphering (see column 4, lines 53-67; figure 2, items 12, 16, 21, and 26; password files for various entities; see column 9, lines 22-24; figure 4; where the passwords are uses as keys for encryption, such as the root password);

deciphering means [see specification, page 15, lines 5-8; figure 4, item 3; deciphering part] for deciphering an enciphered communication text into a deciphered communication text using a key (see column 8, lines 42-44; decrypting the encrypted initial string $K_1(\text{RDN1})$; ; and

control means [see specification, page 15, lines 5-8; figure 4, item 2; synchronization controller] for starting the deciphering means [see specification, page 15, lines 5-8; figure 4, item 3; deciphering part] only when an input communication text is the enciphered communication text (see column 8, lines 35-41; figure 3, step 105; a challenge message sent by owner O that indicates an encrypted initial string) and for supplying the key that is necessary for the deciphering in the deciphering means [see specification, page 15, lines 5-8; figure 4, item 3; deciphering part] by retrieving the key from the key storage means [see specification, page 15, lines 5-8; figure 4, item 4; key storage] (see column 8, lines 42-44; figure 2, microprocessor; smartcard S obtaining the necessary key (i.e. owner's O's password)).

The key storage means, deciphering means, and control means limitations explicitly recited in claim 1 are construed to cover the corresponding structure described in the specification and the equivalents thereof. See MPEP § 2181, 35 U.S.C. § 112, ¶ 6, and *In re Donaldson Co.*, 16 F.3d 1189, 1195, 29 USPQ2d 1845, 1850 (Fed. Cir. 1994) *en banc*.

As per claim 2, Mandelbaum et al. further point out:

receiver means [see specification, page 15, lines 5-8; figure 4, item 1; receiver] for receiving the input communication text and for supplying the input communication text to the control means (see column 8, lines 22-23; figure 2, items analog interface circuit and

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microprocessor; smartcard S receives the random initial string encrypted by owner O's password); and

output means [see specification, page 15, lines 5-8; figure 4, item 5; output part] for outputting the deciphered communication text obtained from the deciphering means (see column 8, lines 44-46; after smartcard S decrypts $K_1(\text{RND1})$, the decryption results in RND1 to be compared with the initial random string that smartcard S sent to owner O),

where the control means includes a means for determining [see specification, page 15, lines 20-29; figure 4, item 10; enciphered communication text detector] whether the input communication text is the enciphered communication text or a normal communication text (see column 8, lines 41-44; based on the ID contained in the RND2 string, S determines that $K_1(\text{RND1})$ is encrypted with owner O's password and retrieves that password for decryption).

The receiver means, output means, and means for determining limitations explicitly recited in claim 2 are construed to cover the corresponding structure described in the specification and the equivalents thereof. See MPEP § 2181, 35 U.S.C. § 112, ¶ 6, and *In re Donaldson Co.*, 16 F.3d 1189, 1195, 29 USPQ2d 1845, 1850 (Fed. Cir. 1994) *en banc*.

As per claim 3, Mandelbaum et al. moreover embody:

that the receiver means, the key storage means, the deciphering means, the control means, and the output means form a deciphering unit (see column 8, lines 22-23 and 42-45; figure 2; the entire smartcard acts as a deciphering unit).

As per claim 4, Mandelbaum et al. then depict:

a communication text storage means [see specification, page 22, lines 27-29; figure 6, item 52; mail spool] for storing input communication texts when received (see column 10, lines 1-5; figure 5, step 117; figure 2, item 20; installing a value in a file owned by a Service Provider SP representative of money in an electronic purse; and

timer means [see specification, page 23, lines 1-6; figure 6, item 59; timer] for determining periodical accesses to the communication text storage means via the control means to retrieve the input communication text from the communication text storage means if stored so that the input communication text retrieved from the communication text storage means is input to the receiver means (see column 12, lines 23-26; figure 9, block 25; a threshold set by the service provider SP to allow only a threshold amount of funds to be withdrawn in real time),

where the communication text storage means is provided for use in common within a network system to which the user support system belongs (see column 7, lines 37-44; figure 8; smartcard interfaced with a service provider and merchant through a telecommunications network).

The communication text storage means and timer means limitations explicitly recited in claim 4 are construed to cover the corresponding structure described in the specification and the

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equivalents thereof. See MPEP § 2181, 35 U.S.C. § 112, ¶ 6, and *In re Donaldson Co.*, 16 F.3d 1189, 1195, 29 USPQ2d 1845, 1850 (Fed. Cir. 1994) *en banc*.

As per claim 9, Mandelbaum et al. additionally show:

enciphering means [see specification, page 15, lines 30-33; figure 4, item 3'; enciphering part] for enciphering a communication text into an enciphered communication text which is to be transmitted using a key (see column 8, lines 47-49; figure 3, step 106; figure 2, items 12 and microprocessor; smartcard S encrypts string RND2 with S's Root password and forwards the resultant string, $K_1(\text{RND2})$ to owner O),

where the key storage means stores keys used for enciphering (see column 4, lines 53-57; figure 2, item 12; Root-owned "passwd" file),

where the control means starting the enciphering means only when an input communication text is the communication text to be transmitted by a cryptographic communication and for supplying the key that is necessary for the enciphering in the enciphering means by retrieving the key from the key storage means (see column 8, lines 47-49; figure 3, step 106; figure 2, items 12 and microprocessor; smartcard S encrypts string RND2 with S's Root password and forwards the resultant string, $K_1(\text{RND2})$ to owner O).

The enciphering means limitation explicitly recited in claim 9 is construed to cover the corresponding structure described in the specification and the equivalents thereof. See MPEP § 2181, 35 U.S.C. § 112, ¶ 6, and *In re Donaldson Co.*, 16 F.3d 1189, 1195, 29 USPQ2d 1845, 1850 (Fed. Cir. 1994) *en banc*.

As per claim 16, Mandelbaum et al. illustrate a user support system for cryptographic communication in a network system in which a first system and a second system are connected via an external network (see column 7, lines 37-44; figure 8; smartcard interfaced with a service provider and merchant through a telecommunications network), comprising:

a deciphering unit, provided in a second system, deciphering the enciphered communication text input via the external network (see column 8, lines 22-23; figure 2, items analog interface circuit and microprocessor; smartcard S receives the random initial string encrypted by owner O's password; see column 8, lines 44-46; where smartcard S decrypts $K_1(RND1)$),

where the deciphering unit comprises:

a receiver receiving communication text input via the external network (see column 8, lines 22-23; figure 2, items analog interface circuit and microprocessor; smartcard S receives the random initial string encrypted by owner O's password; column 10, lines 38-39; figure 5, step 117; service provider SP fills a request and sends an encrypted command to smartcard S);

a deciphered mail extracting part determining whether the communication text received by the receiver is an enciphered communications text or a normal communication text and extracting the enciphered communication text (see column 10, lines 28-30; smartcard S determines whether service provider SP used the correct password in forming $K_2(RND1)$; see column 10, lines 22-30; figure 6, step 143; where smartcard S must separate it from the message comprised of both $K_2(RND1)$ and RND2);

a key storage storing keys necessary for the cryptographic communication (see column 4, lines 53-67; figure 2, items 12, 16, 21, and 26; password files for various entities; see column 9, lines 22-24; figure 4; where the passwords are used as keys for encryption, such as the root password);

a key retrieving part retrieving from the key storage a key that is necessary for deciphering the enciphered communication text when the deciphered mail extracting part extracts the enciphered communication text (see column 10, lines 27-30; smartcard S determines whether service provider SP used the correct password in forming $K_2(\text{RND1})$; see column 8, lines 42-45; where smartcard S obtains the necessary key for decrypting $K_2(\text{RND1})$);

a deciphering part deciphering the enciphered communication text into a deciphered communication text using the key retrieved by the key retrieving part (see column 10, lines 38-39; figure 6, step 147; service provider SP fills a request by sending a command to smartcard S by encrypting it with SP password, which smartcard S decipheres; and

a transmitter transmitting the deciphered communication text from the deciphering part to a destination of the deciphered communication text within the second system (see column 10, lines 1-5; figure 2, item 20; installing a value in a file owned by the service provider SP representative of money in an electronic purse).

As per claim 17, Mandelbaum et al. embody:

that the second system forms an internal network system (see column 10, lines 14-19; figure 6; the smartcard S in combination with the computer that the possessor P of the card is using form an internal network); and

that the deciphering unit is arbitrary equipment within the network and automatically decipheres the enciphered communication text input from the external network to output the deciphered communication text to the destination within the internal network system (see column 9, lines 45-47; figure 4; holder H sets up a communication path between smartcard S and service provider SP using the SP password as an encryption key).

As per claim 18, Mandelbaum et al. then describe:

that arbitrary equipment is terminal equipment within the internal network system, and connecting the second system to the external network (see column 4, lines 48-53; figure 2; where the deciphering unit in the microprocessor is in the smartcard S as terminal equipment; see column 7, lines 37-44; figure 8; where the smartcard is interfaced with a service provider and merchant though a telecommunications network).

As per claim 19, Mandelbaum et al. also suggest:

that the deciphering unit is provided in network connecting equipment connecting the second system to the external network (see column 9, lines 45-47; figure 4; figure 2, items microprocessor and analog device circuit; where the deciphering unit microprocessor connects to the external network to access the service provider SP), and

that the deciphering unit automatically decipheres all enciphered communication texts input from the external network to output the deciphered communication texts to the destination within the internal network system (see column 9, lines 45-47; figure 4; figure 2, items

microprocessor and analog device circuit; where the deciphering unit microprocessor decrypts all communication between the holder H and the service provider SP).

Allowable Subject Matter

21. Claims 5, 7, 8, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

22. Claim 6 would be allowable if rewritten or amended to overcome the objection set forth in this Office action and rewritten in independent form including all of the limitations of the base claim and any intervening claims.

23. Claim 10 would be allowable by amendment or by terminal disclaimer to overcome the nonstatutory double patenting rejection, set forth in this Office action.

24. Claims 11-13 would be allowable if rewritten or amended to overcome the objection set forth in this Office action, and by terminal disclaimer to overcome the nonstatutory double patenting rejection, or rewritten in independent form including all of the limitations of the base claim and any intervening claims.

25. Claim 15 would be allowable if rewritten or amended to overcome the objection set forth in this Office action and by terminal disclaimer to overcome the nonstatutory double patenting rejection, set forth in this Office action.

26. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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27. The following is a statement of reasons for the indication of allowable subject matter:

Claims 5-8 are drawn to a user support system. The closest prior art, Mandelbaum et al., U.S. Patent No. 5,544, 246 A, disclose a similar system. Although Mandelbaum et al. describe checking a digital signature formed by decrypting with a public key a message encrypted with the corresponding private key (see column 11, lines 15-21; deciphering the digital signature using the provided public key), they teach away from a signature checking means for making a signature check with respect to the deciphered communication text obtained from the deciphering means. This composite feature explicitly recited in intervening claim 5 renders claims 5-8 to have allowable subject matter.

Claims 10-13 and 15 are drawn to terminal equipment for cryptographic communication. The closest prior art, Hewlett-Packard Company (Marshall et al.), European Patent Application Publication No. EP 0 281 224 A2, discloses similar terminal equipment. Although Marshall et al. describe an enciphering unit enciphering a communication text which includes an address of the enciphering unit on an external network (see page 6, lines 40-45; figure 2, item 37; message assembly with source section SC and destination section DN), they neither teach nor suggest a key storage storing keys in the enciphering unit necessary for a cryptographic communication. This particular feature explicitly incorporated into independent claim 10 renders claims 10-13 and 15 to have allowable subject matter.

Claim 20 is drawn to user support system. The closest prior art, Mandelbaum et al., U.S. Patent No. 5,544, 246 A, disclose a similar system. However, they teach away from a common key that is used in common within the second system and automatically deciphering the enciphered communication text using the common key (see column 9, lines 45-52; figure 4;

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where communication is encrypted between smartcard S and service provider SP, but clear between smartcard S and holder H). This distinct element explicitly recited in dependent claim 20 renders it allowable.

Conclusion

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Horne, U.S. Patent No. 4,887,296 A, discloses encrypted audiovisual data addressed to subscribers with a particular key.

Telephone Inquiry Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin T. Darrow whose telephone number is (703) 305-3872 until mid October 2004, then (571) 272-3801 thereafter, and whose electronic mail address is justin.darrow@uspto.gov. The examiner can normally be reached Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barrón, Jr., can be reached at (703) 305-1830 until mid October 2004, then (571) 272-3799.

The fax number for Formal or Official faxes to Technology Center 2100 is (703) 872-9306. In order for a formal paper transmitted by fax to be entered into the application file, the paper and/or fax cover sheet must be signed by a representative for the applicant. Faxed formal papers for application file entry, such as amendments adding claims, extensions of time, and

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statutory disclaimers for which fees must be charged before entry, must be transmitted with an authorization to charge a deposit account to cover such fees. It is also recommended that the cover sheet for the fax of a formal paper have printed "**OFFICIAL FAX**". Formal papers transmitted by fax usually require three business days for entry into the application file and consideration by the examiner. Formal or Official faxes including amendments after final rejection (37 CFR 1.116) should be submitted to (703) 872-9306 for expedited entry into the application file. It is further recommended that the cover sheet for the fax containing an amendment after final rejection have printed not only "**OFFICIAL FAX**" but also "**AMENDMENT AFTER FINAL**".

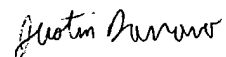
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900 until mid October 2004, then (571) 272-2100 thereafter.

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